Section 2, Status and Amendments to Pending Claims:

Summary:

Claims pending in the case after this amendment are: Claims 1, 2, 4, 7, 11 – 14, 17, 18, 22 – 24, 28, 30 – 34, and 36 – 52.

Claims 1, 2, 4, 22 and 41 are Currently Amended here.

No claims are Cancelled here.

Claims 1 – 4, 7, 11, 12, 14, 24, 28, 33, and 45 were Previously Amended;

Claims 13, 18, and 30 are Original;

Claims 5, 8 – 10, 15, 16, 19, 20, 25 – 27, 29, 35 and 53 were Previously Canceled; and

Claims 34 and 36 –40, 42, 44, 46 – 48 and 50 - 52 were Previously Added.

Set of Pending Claims, Including Amendments:

A set of all claims as presently pending in this case, including the claims amended herewith in numerical sequence is presented next below:

1) **(Currently Amended)** Method for reducing **[the]** danger to vehicular passenger and animal occupants of heat prostration or suffocation upon being trapped in a hot, closed vehicle comprising the steps of:

a) providing a passenger safety system comprising a vehicle interior space occupancy sensor assembly that includes an ultrasound unit and a controller including a safety algorithm for activating passenger/animal occupant alert, an exterior alert, passenger/animal occupant relief and passenger/animal occupant release functions;

b) monitoring with said safety system **a [the]** vehicle operational state incuding sensing when said vehicle is in a stopped condition;

c) **implementing [activating]** said safety algorithm when a stopped condition of said vehicle is sensed, including;

i) determining with said occupancy sensor **an [the]** occupancy state of said vehicle interior space selected from a passenger compartment and a load space;

ii) upon determining said vehicle interior space includes at least one occupant, monitoring and evaluating interior temperature rise data extracted from an output of said

ultrasound unit; and

iii) progressively triggering at least two of an interior alert, an exterior alert, a heat relief measure, and a passenger/animal occupant release measure in response to criteria including said vehicle is in a stopped condition, said vehicle interior space occupancy state is determined to be occupied, and the monitored temperature satisfies a predetermined danger criteria.

2) **(Currently Amended)** Method as in claim 1 wherein said step of [: a)] sensing a vehicle stopped condition is selected from vehicle ignition state, vehicle electrical system activity, vehicle accelerometer activity or history, odometer activity, amount of road vibration, GPS location updates, engine activity, external motion sensing, trunk or door open/closed, parking brake on, and occupancy state history; and wherein said triggering includes evaluating said sensed vehicle condition.

3) **(Previously Canceled)**

4) **(Currently Amended)** Method as in claim 1 wherein said occupancy state **determining** [**sensing**] step includes the step of evaluating the output of at least one additional sensor selected from an ultrasound sensor, an IR sensor, an imaging sensor, a microphone, a seat sensor, a capacitance sensor, a motion sensor, and a floor sensor, or the occupancy history.

5) and 6) **(Previously Canceled)**

7) **(Previously Amended)** Method as in claim **1** wherein;

a) said step of triggering said interior alert includes activating at least one of a voice announcement, a warning sound, and an illuminated warning;

b) said step of triggering said exterior alert includes activating at least one of vehicle lights, sounding a vehicle horn, sounding an alarm system siren, and an outbound RF message;

c) said step of triggering said passenger/animal relief includes activating at least one of opening at least one window or roof panel, turning on a fan, turning on a vehicle AC system, deploying shading, increasing reflectivity, and providing location information to rescuers; and

d) said step of triggering said passenger/animal release includes activating at least one of a seat belt release, unlocking a door, opening a window or roof panel and deploying a ramp or lift.

8 – 10) **(Previously Canceled)**

11) **(Previously Amended)** Method for providing an alert to assist in avoiding development

of a heat condition in the interior of a vehicle that is dangerous to non-abled human and animal occupants, comprising the steps of:

a) providing a reminder device for the vehicle driver and able passengers of the presence of non-abled vehicle occupants,

b) arming said reminder device upon inclusion of at least one non-abled occupant in said vehicle;

c) sensing a condition of at least one of said driver or an able passenger leaving said vehicle, vehicle ignition OFF after a period of ignition ON, vehicle stopped, and at least one of the driver and an able passenger door opening or/and closing;

d) monitoring the temperature in the vehicle space in which said non-abled vehicle occupant is located by extraction of temperature data from the output of at least one ultrasound transducer; and

e) triggering said reminder upon both said monitored temperature satisfying a predetermined criteria and at least one of said sensed conditions occurring so that said reminder device provides an alert to at least one of said driver and said able passenger to not leave said non-abled occupant untended in the vehicle to suffer from heat-induced injury.

12) **(Previously Amended)** Method as in claim 11 wherein said alert is selected from at least one of a light, a lighted message, a sound alarm and a voice announcement.

13) **(Original)** Method as in claim 11 which includes the added step of triggering at least one of an exterior alert, a heat relief measure and a release measure in response to at least one of said sensed conditions occurring.

14) **(Previously Amended)** Method as in claim 13 wherein;

a) said step of triggering said exterior warning includes activating at least one of vehicle lights, sounding a vehicle horn, sounding an alarm system siren, and an outbound RF message;

b) said step of triggering said passenger/animal relief includes activating at least one of opening at least one window or roof panel, turning on a fan, turning on a vehicle AC system, deploying shading, increasing reflectivity, and providing location information to rescuers; and

c) said step of triggering said passenger/animal release includes activating at least one of a seat belt release, unlocking a door or trunk, unlocking or opening a window or roof panel and deploying a ramp or lift.

15) and 16) **(Previously Canceled)**

17) **(Previously Amended)** Apparatus system for reminding or warning against development of excess heat conditions in vehicle passenger and/or load spaces, comprising in operative combination:

a) a safety system which includes at least one temperature sensor for monitoring the ambient temperature of at least one of a vehicle interior space and the exterior, comprising at least one ultrasound transponder unit;

b) said safety system includes a controller having a signal processing algorithm for determining when said vehicle is in a stopped condition and for extraction of temperature data from an input from said ultrasound transponder unit, a state and temperature history database, and a control algorithm including a set of temperature criteria for at least one of reminder and warning activation triggers; and

c) at least one warning device mounted in association with said vehicle triggered by said controller in response to a determination that said vehicle is in the stopped condition and the monitored temperature satisfying a predetermined criteria, for at least one of:

i) reminding against leaving a non-abled passenger or animal in the vehicle; and

ii) warning of at least one sensed temperature condition exterior or interior of said vehicle that tends toward danger for a non-abled passenger or animal in said vehicle space.

18) **(Original)** System as in claim 17 wherein said warning device comprises an initializable sound or visual reminder unit electrically linked to at least one vehicle door open/close sensor, so that after initializing, upon said vehicle door being sensed as opened or/and closed, said reminder unit warning is activated.

19) – 21) **(Previously Canceled)**

22) **(Currently Amended)** System as in claim 17 wherein [: a)] said system includes at least one vehicle stopped condition sensor that provides an output to said controller of at least one of vehicle ignition state, vehicle accelerometer activity or history, vehicle electrical system activity, odometer activity, amount of road vibration, GPS location updates, engine activity, external motion sensing, trunk or door open/close, parking brake on, and occupancy state.

23) **(Previously Amended)** System as in claim 22 wherein said controller progressively triggers at least two of an interior vehicle warning, an exterior warning, a passenger/animal occupant relief measure and a passenger/animal occupant release measure.

24) **(Previously Amended)** System as in claim 23 wherein;

a) said interior warning is selected from a voice announcement, a warning sound, and an illuminated warning;

b) said exterior warning is selected from flashing vehicle lights, sounding a horn, sounding an alarm system siren, and an RF call out;

c) said passenger/animal relief is selected from opening at least one window or roof panel, turning on a fan, turning on a vehicle AC system, deploying shading, darkening or increasing reflectivity of windows, and providing location information to rescuers; and

d) said passenger/animal release is selected from disconnecting a seatbelt, unlocking a door, opening a window or roof panel, opening a door, and deploying a ramp or lift.

25) – 27) **(Previously Canceled)**

28) **(Previously Amended)** System as in claim 22 wherein said vehicle condition occupancy state sensor comprises at least one of an ultrasound sensor, an IR sensor, an imaging sensor, a microphone, a seat sensor, a floor sensor, a capacitance sensor, and a motion sensor.

29) **(Previously Canceled)**

30) **(Original)** A computer readable media storing computer executable instructions that, when executed by at least one processor, performs the method of claim 1.

31) **(Previously Amended)** In a method of reducing the danger to vehicular passengers and animals of heat prostration or suffocation upon being trapped in a hot, closed vehicle, in which interior temperature of an occupied vehicle is sensed, and in response to said temperature an excessive temperature warning signal is generated, the improvement comprising the steps of sensing a stopped condition of said vehicle, and triggering an occupant release measure in response to both said stopped condition and a temperature signal sensed by an ultrasound sensor to be in excess of a pre-determined temperature criteria.

32) **(Previously Amended)** Improved method as in claim 31 wherein the step of sensing a vehicle stopped condition is selected from sensing vehicle ignition state, vehicle accelerometer activity or history, vehicle electrical system activity, odometer activity, amount of road vibration, GPS location updates, engine activity, external motion, trunk or door open/closed, parking brake on, and occupancy state history; and wherein said passenger release triggering step includes evaluating said sensed vehicle condition.

33) **(Previously Amended)** Improved method as in claim 32 wherein said temperature sensed is the temperature of at least one vehicle interior space selected from a passenger compartment and a load space.

34) **(Previously Added)** Improved method as in claim 33 wherein said occupancy state sensing steps includes the step of evaluating the output of at least one sensor selected from an ultrasound sensor, an IR sensor, an imaging sensor, a microphone, a seat sensor, a capacitance sensor, a motion sensor, and a floor sensor.

35) **(Previously Canceled)**

36) **(Previously Added)** Improved method as in claim 31 which includes the steps of progressively triggering at least one of an interior warning, an exterior warning, and a passenger/animal relief measure, followed by triggering said passenger/animal release.

37) **(Previously Added)** Improved method as in claim 36 wherein;

a) said step of triggering said interior warning includes activating at least one of a voice announcement, a warning sound, and an illuminated warning;

b) said step of triggering said exterior warning includes activating at least one of vehicle lights, sounding a vehicle horn, sounding an alarm system siren, and an outbound RF message;

c) said step of triggering said passenger/animal relief includes activating at least one of opening at least one window or roof panel, turning on a fan, turning on a vehicle AC system, deploying shading, increasing reflectivity, and providing location information to rescuers; and

d) said step of triggering said passenger/animal release includes activating at least one of a seat belt release, unlocking a door or trunk, unlocking or opening a window or roof panel and deploying a ramp or lift.

38) **(Previously Added)** Improved method as in claim 31 wherein said predetermined temperature criteria include at least one of absolute temperature value and rate of temperature rise over time.

39) **(Previously Added)** Improved method as in claim 38 wherein the frequency of extraction of temperature data from said ultrasound unit output increases when the absolute temperature of said vehicle interior space reaches a preselected value.

40) **(Previously Added)** Improved method as in claim 38 wherein at least one of said triggerings occurs when the vehicle is detected as not running and a door, trunk lid or load

compartment access door is detected as sequencing open/close, said ultrasound unit is awakened to monitor at least one of interior and exterior temperature for said triggering determination, in part to protect against "crawl-in" type entrapment of children.

41) **(Currently Amended)** Apparatus system for reducing the danger to vehicular passengers and animals of heat prostration or suffocation upon being trapped in a hot, closed vehicle comprising in operative combination:

a) at least one temperature sensor for monitoring at least one of a vehicle interior space and the exterior ambient temperature wherein said interior space temperature is extracted from a return signal output from an ultrasound sensor;

b) at least one vehicle stopped condition sensor;

c [b]) a controller receiving an output of said vehicle operational state sensor and said temperature sensor, a vehicle stopped condition and occupancy state and temperature history database, and a control algorithm including a set of temperature criteria for triggering at least one passenger/animal release measure in response to said vehicle being in a stopped condition and a predetermined temperature being sensed; and

d [c]) at least one passenger/animal release activator connected to said controller for releasing at least one of a passenger/animal restraint or unlocking or opening an exit or escape passage.

42) **(Previously Added)** Apparatus system as in claim 41 wherein said release activator includes at least one of a seat belt release, a door or trunk lock, a window or roof panel opener and a ramp or lift deploy unit.

43) **(Previously Amended)** Apparatus system as in claim 41 wherein said vehicle stopped condition sensor provides an output to said controller of at least one of vehicle ignition state, vehicle electrical system activity, odometer activity, amount of road vibration, GPS location updates, engine activity, external motion sensing, trunk or door open/close, parking brake on, and occupancy state.

44) **(Previously Added)** Apparatus system as in claim 43 wherein;

a) said controller algorithm progressively triggers at least one of an interior vehicle warning, an exterior warning, a passenger/animal relief measure, followed by said passenger/animal release activator;

b) wherein said interior warning is selected from actuators for a voice announcement, a

warning sound, and an illuminated warning;

c) said exterior warning is selected from actuators for flashing vehicle lights, sounding a horn, sounding an alarm system siren, and an RF call out; and

d) said passenger/animal relief is selected from actuators for opening at least one window or roof panel, turning on a fan, turning on a vehicle AC system, deploying shading, darkening or increasing reflectivity of windows, and providing location information to rescuers.

45) **(Previously Amended)** Apparatus system as in claim 43 wherein said occupancy state sensor comprises at least one of an ultrasound sensor, an IR sensor, an imaging sensor, a microphone, a seat sensor, a floor sensor, a capacitance sensor, and a motion sensor.

46) **(Previously Added)** System as in claim 28 wherein said occupancy state sensor comprises a linear array of transducers, and the input to the controller therefrom is selectively evaluated for at least one of a Head Zone, a seat zone, a floor zone and side scan for window position.

47) **(Previously Added)** Method as in claim 1 wherein said predetermined temperature criteria include at least one of absolute temperature value and rate of temperature rise over time.

48) **(Previously Added)** Method as in claim 47 wherein the frequency of extraction of temperature data from said ultrasound unit output increases when the absolute temperature of said vehicle interior space reaches a preselected value.

49) **(Previously Amended)** Method as in claim 47 wherein at least one of said triggerings occurs when a passenger compartment door, trunk lid or load compartment access door is detected as sequencing open/close, said ultrasound unit is awakened to monitor at least one of interior and exterior temperature for said triggering determination, in part to protect against "crawl-in" type entrapment of children.

50) **(Previously Added)** Method as in claim 11 wherein said predetermined temperature criteria include at least one of absolute temperature value and rate of temperature rise over time.

51) **(Previously Added)** Method as in claim 50 wherein the frequency of extraction of temperature data from said ultrasound unit output increases when the absolute temperature of said vehicle interior space reaches a preselected value.

52) **(Previously Added)** System as in claim 28 wherein said occupancy state sensor

comprises a linear array of transducers, and the input to the controller therefrom is selectively evaluated for at least one of a Head Zone, a seat zone, a floor zone and side scan for window position.

53) **(Previously Canceled)**

End of Section 2, Status and Amendments to Pending Claims.